4.8 AIR QUALITY

The information contained in this section is based on the *SR-22 West Orange County Connection (SR-22/WOCC) Air Quality Technical Report* and the *Air Quality Technical Report Reduced Build Alternative Addendum* (January 2001, revised June 2002) both of which are available under separate cover at the Department and OCTA. These Reports identify air pollutants associated with motor vehicle exhaust and summarize existing and modeled air quality data and effects based on the project alternatives. This section includes discussions of impacts and mitigation measures related to air quality in the study area, and will focus primarily on the identified Preferred Alternative in the context of the No Build, TSM/Expanded Bus Service, Full Build, and Reduced Build Alternatives.

As shown in Table 2.2-1, the (Enhanced) Reduced Build Alternative is essentially the same as the Reduced Build Alternative. Consequently, the air quality analysis presented in this Section for the (Enhanced) Reduced Build Alternative is comparable to the Reduced Build Alternative air quality analysis prepared for the August 2001 DEIR/EIS. In those few instances where there may be a slight difference between the Reduced Build Alternative and the (Enhanced) Reduced Build Alternative with regard to local air quality impacts, supplemental analysis was performed to explicitly address the eastern section of SR-22, between Glassell Street and SR-55. See *Air Quality Technical Report Reduced Build Alternative Addendum* (January 2001, revised June 2002). As previously discussed, the extension of the Mainline essentially incorporates components of the Full Build Alternative's SR-22/SR-55 HOV connector feature, where it would have continued from Glassell Street to SR-55 (analyzed under the Full Build Alternative in the August 2001 DEIR/EIS).

The additional analysis in this section is the result of refined engineering, responding to comments received during the public comment period of the August 2001 DEIR/EIS, and/or additional planning efforts. During the public comment period of the DEIR/EIS, the Department received numerous comments from residents in the Community of Rossmoor, as well as from residents in the City of Seal Beach, concerned with the potential air quality impacts as a result of the implementation of the I-405/I-605 direct HOV connector. To address this issue, additional analyses was conducted to determine the impacts from the I-405/I-605 direct HOV connector. The findings for this analysis as well as discussions of air quality impacts to other portions of the SR-22 corridor are discussed in this section. The comments and responses to comments are attached as Appendix A of this FEIS/EIR (Volumes II & III).

4.8.1 Impact Assessment Methodology

A. POLLUTANTS FOR ANALYSIS

The pollutants that are most important to this air quality impact analysis are those that can be traced principally to motor vehicles. Criteria pollutants are typically analyzed on an individual basis. Ozone (O3) is a photochemical oxidant and the major component of smog. O3 is not emitted directly into the air but is formed through complex chemical reactions between precursor emissions of volatile organic compounds (VOC) and oxides of nitrogen (NOx) in the presence of sunlight. Since ozone (O_3) is formed when these chemicals react, it is not individually analyzed. In the project area, Sulfur Dioxide (SO_x) and Lead (Pb) emissions are associated mainly with various stationary sources. Hydrocarbons (HC), NO_x, and $PM_{10/2.5}$ emissions come from mobile and stationary sources. Carbon Monoxide (CO) emissions are predominantly influenced by motor vehicle activity.

HC and NO_x are examined on a regional or "meso-scale" level. In 1997, EPA added two new PM-2.5 standards, set at 15 micrograms per cubic meter (µGA) and 65 µg/m3, respectively, for the annual and 24-hour standards. In addition, the form of the 24-hour standard for PM-10 was changed. EPA is beginning to collect data on PM-2.5 concentrations. Beginning in 2002, based on 3 years of monitor data, EPA will designate areas as nonattainment that do not meet the new PM-2.5 standards. However, for the purpose of this project, a qualitative PM_{10} assessment was conducted based on the Department's screening procedure for PM_{10} hot-spot analysis.

B. NEPA ASSESSMENT

Regional Emissions Analysis
EPA's Transportation Conformity Rule requires that the 2002 RTIP regional emissions be consistent with the motor vehicle emissions budgets in the applicable SIPs (Section 93.118). Consistency with emissions budgets must be demonstrated for each year that the applicable emissions budgets are established. Additionally, the 2002 RTIP regional emissions must be analyzed for the planning horizon year and for all identified milestone years (any two subsequent years that are being analyzed should not be more than ten years apart).

Mesoscale (Regional) Analysis
The regional emissions analysis for the 2001 Regional Transportation Plan (RTP), which includes the proposed project, must meet all of the following requirements for approval:

- The regional emissions must be equal to or less than the emissions budgets.
- The PM_{10} emissions with the proposed projects in the RTP must be less than the no build condition without these projects.
- The Ozone and CO emissions estimated with the proposed projects in the RTP must be less than the no-build condition without these projects and the future year emissions must be less than the 1990 base year emissions.

Microscale (Local) Analysis

Under NEPA, the localized project impacts depend on whether ambient CO levels in the project vicinity would be above or below federal air quality standards. If ambient levels are below the standards, a project is considered to have significant impacts if project emissions would result in an exceedance of one or more of these standards. If ambient levels already exceed the federal standard, project emissions are considered significant if they would increase one-hour CO concentrations by 1.0 parts per million (ppm) or more, or eight-hour CO concentrations by 0.45 ppm or more.

C. CEQA ASSESSMENT

Mesoscale (Regional) Air Quality

Relative regional or "mesoscale" air quality impacts are directly related to how the project affects vehicular emissions. Specific criteria for determining whether the potential air quality impacts of an alternative would be significant are set forth in the SCAQMD's *CEQA Air Quality Handbook* (1993).[11] The criteria include emissions thresholds, compliance with state and national air quality standards and conformity with the existing SIP or with the current AQMP.

The daily operational regional emissions "significance" thresholds are as follows:

- 25 kilograms (55 pounds) per day of reactive organic compounds (ROC) (precursors to ozone)
- 25 kilograms (55 pounds) per day of NO_x
- 250 kilograms (550 pounds) per day of CO
- 70 kilograms (150 pounds) per day of PM_{10}
- 70 kilograms (150 pounds) per day of SO_x

Projects in the South Coast Air Basin with operation-related emissions that would exceed any of the emission thresholds are considered significant by the SCAQMD.

Potential impacts were developed using the Orange County Transportation Analysis Model, ve rterns, vehicle speeds and roadway configuration provided a forecast of future (2020) conditions. Emission burdens were then determined using average hourly VKT (VMT) data for each pollutant.

D. ANALYSIS SITES/RECEPTOR LOCATIONS

Carbon monoxide levels were estimated at 13 locations using the CALINE4 model. The sites selected are listed in Table 4.8-1, Carbon Monoxide Hotspot Analysis Sites, and shown in Figure 4.8-1. Five analysis sites are intersections and eight are freeflow locations. Two of the five intersection sites were chosen using the screening methodology recommended in the Department *Transportation Project-Level Carbon Monoxide Protocol* (1992), UCD-ITS-RR-97-21 (1997) (Department of Transportation CO Protocol)[2]. These sites were supplemented by three additional intersections, Sites A, D and E, selected to address community and public concerns. The free-flow sites were chosen based on traffic volumes and levels of service (LOS). Sites B and C were added to the free-flow sites to address community and public concerns.

Table 4.8-1
CARBON MONOXIDE HOTSPOT ANALYSIS SITES

Site No.	Description
1	Intersection of Valley View Street & SR-22 westbound on-/off-ramps
2	Intersection of Beach Boulevard & SR-22 westbound on-/off ramps
3	SR-22 between Seal Beach Boulevard & Valley View Street
4	SR-22 between Beach Boulevard & Garden Grove Boulevard
5	SR-22 between Beach Boulevard & Magnolia Street
6	SR-22 between Brookhurst Street & Euclid Street
7	SR-22 between Fairview Street & The City Drive
8	SR-22 between Main Street & Glassell Street
A	Intersection of NB I-605 & Katella Avenue
B	I-605 between Shakespeare and Chesney (near Lee Elementary School)
C	SR-22 between Brookhurst Street & Magnolia Street
D	Intersection of SR-22 WB & Brookhurst Street
E	Intersection of SR-22 WB & Euclid Street

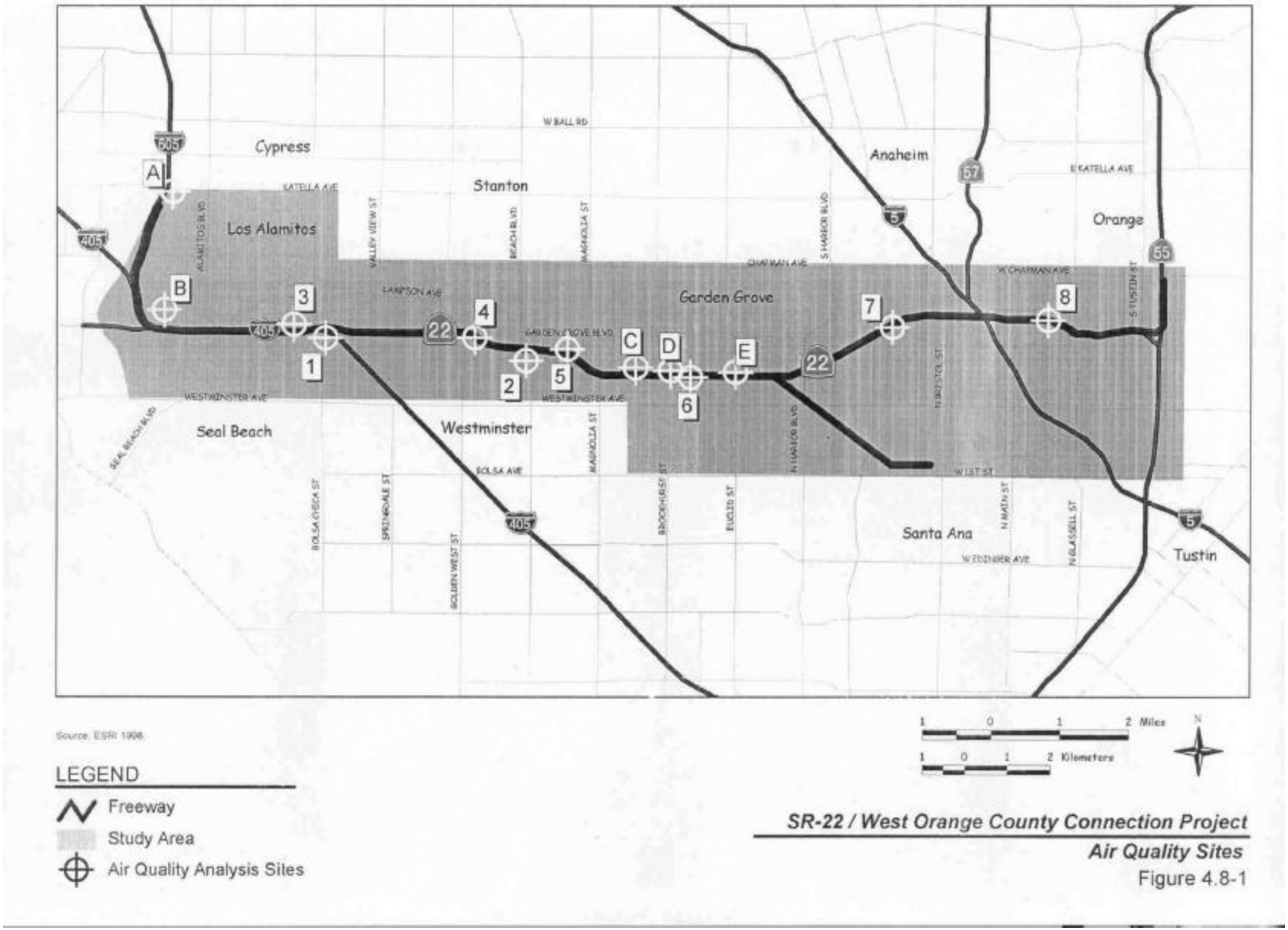
4.8.2 MESOSCALE (REGIONAL) IMPACTS

4.8.2.1 Regional Conformity Analysis

In April 2001, the Southern California Association of Governments (SCAG) completed its transportation modeling and air quality conformity analysis for the South Coast Air Basin (SCAB) as part of the 2001 RTP. All elements of both the Reduced Build and the Full Build Alternatives are included in the SCAG region's constrained list of projects for the 2001 RTP (see Figures 4.8-2 through 4.8-5, from Appendix K of SCAG's list of approved projects). The project elements that make up the identified Preferred Alternative are also included in the adopted 2001 Regional Transportation Plan (RTP).

For the 2001 RTP, SCAG conducted conformity analysis for both a build and a no-build scenario for HC, NO_x, CO and PM_{10}. Future build emissions must be less than the State Implementation Plan's (SIP) emissions budgets or, if no emission budget has been established (PM_{10} and CO), the future build emissions must be less than the future no-build scenario and/or must be less than 1990 emissions. Based on the findings of this regional emissions analysis, the proposed improvements included in the SR-22/WOCC project are not likely to cause new violations or worsen existing conditions, so are in conformity with regional air quality standards. The project is included in the 2002 Regional Transportation Improvement Program (RTIP). See Section 4.8.5, for more details regarding the regional conformity for the SR-22/WOCC project.

[2] Available at the California Department of Transportation, District 12.


Cypress
Stanton
Anaheim
Orange
Los Alamitos
Garden Grove
Seal Beach
Westminster
Santa Ana
Tustin
W BALL RD
KATELLA AVE
E KATELLA AVE
LAMPSON AVE
CHAPMAN AVE
W CHAPMAN AVE
GARDEN GROVE BLVD
WESTMINSTER AVE
BOLSA AVE
W 1ST ST
W EDINGER AVE
S TUSTIN ST
A
B
C
D
E
1
2
3
4
5
6
7
8
405
22
57
55
5
Source: ESRI 1998
LEGEND
Freeway
Study Area
Air Quality Analysis Sites
1 0 1 2 Miles
1 0 1 2 Kilometers
N
SR-22 / West Orange County Connection Project
Air Quality Sites
Figure 4.8-1

4.8.3 MICROSCALE (LOCAL) IMPACTS

4.8.3.1 CARBON MONOXIDE (CO)

(Enhanced) Reduced Build Alternative. Carbon Monoxide concentrations at the analysis sites are listed in Tables 4.8-2 (Predicted One-hour pm Peak Worst-case 2020 Carbon Monoxide Concentrations), 4.8-3 (Predicted Eight-hour pm Peak Worst-case 2020 Carbon Monoxide Concentrations), and 4.8-4, (Intersection of SR-22 EB and Tustin Avenue Predicted Worst-case Carbon Monoxide Concentrations). The original sites in Tables 4.8-2 and 4.8-3 include the No Build, TSM/Expanded Bus Service, Full Build, and (Enhanced) Reduced Build Alternative. Table 4.8-4 shows the one-hour and eight-hour average CO concentrations for a supplemental site for the (Enhanced) Reduced Build alternative, and will be explained in more detail below. As discussed earlier, the (Enhanced) Reduced Build Alternative is a slight modification of the Reduced Build Alternative and for air quality conformity purposes, the (Enhanced) Reduced Build Alternative would not differ from the Reduced Build Alternative since the added portions include extension of the HOV on the Mainline and an auxiliary lane. These added features are part of the Full Build Alternative.

Please note the values changed slightly in Tables 4.8-2 and 4.8-3 in this section when compared to the August 2001 DEIR/EIS (Tables 4.8-3 & 4.8-4) because the concentration included a one-hour background level of 8.2 ppm, as presented in Table 4.8-3 of the August 2001 DEIR/EIS, and the one-hour background level has changed to 7.8 ppm in Table 4.8-2 of this section. Similarly, the concentrations included an eight-hour background level of 5.7 in Table 4.8-4 of the August 2001 DEIR/EIS, and it has changed to 5.5 ppm in Table 4.8-3 in this section. The background values were modified based on more recent monitoring data from the Long Beach CO monitoring site operated by the South Coast Air Quality Management District.

The air quality analysis at Site 2, the intersection of Beach Boulevard and SR-22, was modeled with and without traffic mitigation for the Full Build Alternative. The traffic mitigation applied to this site is a lane added to the westbound off-ramp. The predicted CO levels presented are the output from CALINE4 model runs with the one- and eight-hour background levels of 7.8 ppm and 5.5 ppm added respectively. See Table 3.8-1, Federal and State Ambient Air Quality Standards.

A. PREFERRED ALTERNATIVE/(ENHANCED) REDUCED BUILD ALTERNATIVE.

All predicted concentrations under the (Enhanced) Reduced Build Alternative are below the applicable Federal and State standards. This alternative would not cause or worsen a violation of the applicable standards at any of the locations analyzed.

As discussed in Section 2.2.1 of the FEIS/EIR, the (Enhanced) Reduced Build Alternative is essentially the same as the Reduced Build Alternative, except for the eastern section of SR-22, between Glassell Street and SR-55, where the HOV lanes are extended and an auxiliary lane is added in the eastbound direction for operational purposes. In order to explicitly address the potential microscale (local) impacts associated with the identified Preferred Alternative, supplemental CO hotspot analysis was conducted at an intersection between Glassell Street and SR-55. The intersection of SR-22 (eastbound) and Tustin Avenue was selected because of its location, a volume to capacity ratio greater than 1.0, and an operating level of service (LOS) of F – factors that all contribute to elevated concentrations of carbon monoxide. In order to place the results of the CO analysis for the (Enhanced) Reduced Build Alternative in context, the supplemental hot spot analysis was also conducted for the No Build, TSM/Expanded Bus Service, Reduced Build and Full Build Alternatives at this location. The methods and models used for the supplementary air quality analysis were the same as those that were used to produce the CO findings shown in Tables 4.8-2 and 4.8-3, Predicted One-hour and Predicted 8-Hour.PM Peak, Worst-Case 2020 Carbon Monoxide Concentrations.

Table 4.8-4, Intersection of SR-22 EB and Tustin Avenue Predicted Worst-case Carbon Monoxide Concentrations, presents the results of the supplemental CO analysis for the (Enhanced) Reduced Build Alternative at an intersection along SR-22 where one would expect to see the greatest difference in CO concentrations when compared to the Reduced Build Alternative. The CO results show no measurable difference between the identified Preferred Alternative and the other alternatives that were

analyzed in the August 2001 DEIR/EIS with regard to predicted air quality impacts. Another key finding is that the predicted concentrations are below the applicable federal and state standards for carbon monoxide. See Table 3.8-1, Federal and State Ambient Air Quality Standards. As presented in Tables 4.8-2 and 4.8-3, the predicted one-hour and eight-hour PM Peak worst-case 2020 CO concentrations for the (Enhanced) Reduced Build Alternative were not statistically different from the Reduced Build Alternative for Sites 1 to E. Therefore, analyses for Sites 1 to E are derived from the original CO hotspot analysis for the Reduced Build. Supplemental CO hotspot analysis for Site F includes the modification to the Reduced Build Alternative. Based on this analysis, it is predicted that the identified Preferred Alternative would not cause or worsen a CO violation.

B. OTHER ALTERNATIVES

1. NO BUILD ALTERNATIVE.

The No Build Alternative does not include construction other than that addressed in previous environmental documents. No additional impacts to local air quality would occur.

2. TSM/EXPANDED BUS SERVICE ALTERNATIVE.

All predicted concentrations under the TSM/Expanded Bus Service Alternative are below the applicable federal and state standards. This alternative would not cause or worsen a violation of the applicable standards at any of the locations analyzed.

3. FULL BUILD ALTERNATIVE.

All predicted concentrations under the Full Build Alternative are below the applicable federal and state standards. The alternative would not cause or worsen a violation of the applicable standards at any of the locations analyzed.

The following discussion on the Pacific Electric Arterial has been added to supplement the analysis provided in the August 2001 DEIR/EIS and applies only to the Full Build Alternative. It is important to note that the Pacific Electric Arterial transportation element is not included in the (Enhanced) Reduced Build Alternative.

Pacific Electric Arterial

Two intersections that would be affected by the proposed Pacific Electric Arterial (PE) ramps, Raitt Street at Santa Ana Boulevard and Fairview Street at Civic Center Drive were screened using the EPA and the Department CO Protocol screening methodologies. The screening analysis is based on level of service (LOS), overall intersection volume and delay. To fail the screening, the intersection's V/C ratio must be higher under the Full Build Alternative when compared to the No Build Alternative, and/or the LOS for the Full Build Alternative must be below C or deteriorate to below C when compared to the No Build Alternative. Intersections that fail the screening analysis undergo a detailed microscale analysis to determine if the project would cause or worsen a violation of the CO standard.

The volume to capacity ratio (V/C) and LOS at the intersection of Fairview Street and Civic Center Drive at the worst traffic hour of the day, the PM peak, would be lower with the Full Build Alternative when compared to the No Build Alternative. At the intersection of Raitt Street and Santa Ana Boulevard, the Full Build Alternative would result in higher V/C and LOS during the PM peak than the No Build. However under the Full Build Alternative, this intersection would still have an LOS of C, which is considered as acceptable under the Department screening criteria.

Both intersections pass the Department CO Protocol screening criteria and are therefore not expected to have an impact on local air quality levels. The PE Arterial would not cause or worsen a violation of the applicable standards at any of the locations analyzed.

Table 4.8-2
PREDICTED ONE-HOUR PM PEAK
WORST-CASE 2020 CARBON MONOXIDE CONCENTRATIONS*

Site No.	Description	Alternative			
		No Build	TSM/ Expanded Bus Service	Full Build	(Enhanced) Reduced Build***
1	Intersection of Valley View Street & SR-22 westbound on-/off-ramps	10.4	10.3	10.6	10.5
2**	Intersection of Beach Boulevard & SR-22 westbound on-/off ramps	9.2	9.2	12.1/ (11.4)	11.9
3	SR-22 between Seal Beach Boulevard & Valley View Street	10.1	10.1	10.5	10.5
4	SR-22 between Beach Boulevard & Garden Grove Boulevard	8.9	8.9	9.7	9.6
5	SR-22 between Beach Boulevard & Magnolia Street	9.2	9.2	9.7	9.5
6	SR-22 between Brookhurst Street & Euclid Street	9.6	9.6	10.2	10.0
7	SR-22 between Fairview Street & The City Drive	9.1	9.1	9.3	8.8
8	SR-22 between Main Street & Glassell Street	9.0	8.9	9.7	9.5
A	Intersection of NB I-605 & Katella Avenue	10.8	10.1	10.8	10.0
B	605 between Shakespeare and Chesney (near Lee Elementary School)	8.6	8.1	8.7	8.1
C	SR-22 between Brookhurst Street & Magnolia Street	9.8	9.9	10.1	9.9
D	Intersection of SR-22 WB & Brookhurst Street	10.8	11.4	11.7	11.8
E	Intersection of SR-22 WB & Euclid Street	11.2	11.3	11.4	10.8

Notes: All concentrations are in parts per million (ppm). Threshold values are 20 ppm (State CO standard) and 35 ppm (Federal CO standard).

* Concentrations include a one-hour background level of 7.8 ppm

** Site is unsignalized in No Build or TSM/Expanded Bus Service Alternative.
Traffic mitigation was applied to this site under the Full Build Alternative.
Modeling results for the Full Build Alternative are presented as Full Build / (Mitigated Full Build).

Table 4.8-3
PREDICTED EIGHT-HOUR PM PEAK
WORST-CASE 2020 CARBON MONOXIDE CONCENTRATIONS*

Site No.	Description	Alternative			
		No Build	TSM/ Expanded Bus Service	Full Build	(Enhanced) Reduced Build
1	Intersection of Valley View Street & SR-22 westbound on-/off-ramps	7.3	7.3	7.5	7.4
2**	Intersection of Beach Boulevard & SR-22 westbound on-/off ramps	6.5	6.5	8.5 (8.0)	8.4
3	SR-22 between Seal Beach Boulevard & Valley View Street	7.1	7.1	7.4	7.4
4	SR-22 between Beach Boulevard & Garden Grove Boulevard	6.3	6.3	6.8	6.8
5	SR-22 between Beach Boulevard & Magnolia Street	6.5	6.5	6.8	6.7
6	SR-22 between Brookhurst Street & Euclid Street	6.8	6.8	7.2	7.0
7	SR-22 between Fairview Street & The City Drive	6.4	6.4	6.6	6.2
8	SR-22 between Main Street & Glassell Street	6.3	6.3	6.8	6.7
A	Intersection of NB I-605 & Katella Avenue	7.6	7.1	7.6	7.0
B	I-605 between Shakespeare and Chesney (near Lee Elementary School)	6.1	5.7	6.1	5.7
C	SR-22 between Brookhurst Street & Magnolia Street	6.9	7.0	7.1	7.0
D	Intersection of SR-22 WB & Brookhurst Street	5.5	5.5	5.5	5.5
E	Intersection of SR-22 WB & Euclid Street	7.9	8.0	8.0	7.6

Notes: All concentrations are in parts per million (ppm). Threshold values are 20 ppm (State CO standard) and 35 ppm (Federal CO standard).
* Concentrations include an eight-hour background level of 5.5 ppm
** Site is unsignalized in No Build or TSM/Expanded Bus Service Alternative.
Traffic mitigation was applied to this site under the Full Build Alternative.
Modeling results for the Full Build Alternative are presented as Full Build / (Mitigated Full Build).

Table 4.8-4
INTERSECTION OF SR-22 EB AND TUSTIN AVENUE (SITE F)
PREDICTED WORST-CASE CARBON MONOXIDE CONCENTRATIONS
YEAR 2020 - PM PEAK

Description	Alternatives				
	No Build	TSM/ Expanded Bus Service	Full Build	Reduced Build	(Enhanced) Reduced Build
One-Hour CO Concentration (ppm)	12.1	11.9	11.9	11.9	11.9
Eight-Hour CO Concentration (ppm)	8.5	8.4	8.4	8.4	8.4

Notes: Threshold values are 20 ppm (State) & 35 ppm (Federal) for 8 hours, & 9.0 ppm (State) & 9 ppm (Federal) for 1 hour.
One-hour concentrations include a background level of 7.8 ppm.
Eight-hour concentrations include a background level of 5.5 ppm.

4.8.3.2 PARTICULATE MATTER (PM_{10})

The project is located in the South Coast Air Basin (SCAB), which is a federal non-attainment area for particulate matter sized 10-microns or less (PM_{10}). There is no EPA-accepted or required protocol for PM_{10} quantitative hot-spot analysis. However, there is a PM_{10} qualitative analysis, the Federal Highway Administration's (FHWA) *Guidance for Qualitative Project Level "Hot Spot" Analysis in PM_{10} Non-Attainment and Maintenance Areas*, September 2001. The Department has developed an initial screening level analysis that is used to determine the potential for a PM_{10} violation that would, in turn, warrant further analysis using the FHWA guidance procedure. FHWA has agreed to accept the Department's initial screening analysis for the PM_{10} qualitative analysis.

Particulate matter includes both liquid and solid particles of a wide range of sizes and composition. Of particular concern are those particles that are smaller than or equal to ten microns (PM_{10}) and 2.5 microns ($PM_{2.5}$). The data collected through many nationwide studies indicates that most of the PM_{10} is the product of fugitive dust, wind erosion and agricultural and forestry sources, while a small portion is the product of fuel combustion processes. Major man-made sources of particulate matter include the combustion of fossil fuels in vehicles, power plants and homes; chemical and manufacturing processes; all types of construction; agricultural activities and wood-burning fireplaces. Particulate matter can accumulate in the respiratory system and aggravate health problems such as asthma.

$PM_{2.5}$, is mainly derived from combustion material that has volatilized and then condensed to form primary particulate matter (often after release from a stack or exhaust pipes) or from precursor gases reacting in the atmosphere to form secondary particulate matter. It is also derived from mechanical breakdown of coarse particulate matter such as pollen fragments. Man-made sources of fine particulate matter include combustion of fossil fuel (such as diesel fuel), chemical/industrial processing, and burning of vegetation. Major components include sulfate, ammonium nitrate, organic compounds, trace metals, elemental carbon, and water. Since particulate matter in the ambient air is comprised of a combination of discrete compounds or elements, health effects vary depending on the specific components of the particulate matter in a region. Acid aerosols like sulfuric acid may trigger reactions in pulmonary lung function, while bioaerosols, such as mold spores, may result in allergic reactions related to increased incidences of asthma.

The Department initial screening level procedure is based in part on the inclusion of the proposed project in an approved RTP and TIP, which accounts for the regional PM_{10} emissions in its SIP budget compliance. It is also based on the following summary of Department of Transportation/University of California, Davis (UCD) studies pertaining to PM_{10} violation:

> *If no violations have been recorded in the project vicinity by air district monitors, and the monitored concentrations are not close to the NAAQS (meaning within about 80 to 90 percent of the NAAQS concentration threshold of 150 mg/m^3), Department of Transportation/UCD studies strongly suggest that no PM_{10} hot spot can occur as a result of a typical project.*

The proposed SR-22/WOCC project is consistent with the design concept and scope of the projects listed in SCAG's conforming 2001 RTP, adopted April 12, 2001, and the Transportation Improvement Program, approved August 31, 2001. Excerpted pages from the 2001 RTP are shown as Figures 4.8-2 through 4.8-5, and show the project's inclusion in the RTP. Therefore, the project is not likely to worsen existing conditions regarding regional PM_{10}. The project is included in the 2002 Regional Transportation Improvement Program (RTIP). See Section 4.8.5, for more details regarding the regional conformity for the SR-22/WOCC project.

PM_{10} data monitored at the CARB stations located near the project study area, Anaheim (Harbor Boulevard) and North Long Beach (North Long Beach Boulevard), for the three years 1999 through 2001, indicate that there has been no federal PM_{10} (NAAQS) violation of the 24-hour standard based on the most recent 3-year 99th percentile average: Anaheim (2001) – 114 g/m^3 and North Long Beach (2001) – 92 mg/m^3. The monitored three-year 99th percentile averages are below 80 percent of the NAAQS concentration threshold of 150 mg/m^3 (24-hour standard) stated in the Department of Transportation/UCD studies (i.e., 120 mg/m^3). This finding indicates that a localized PM_{10} violation, due to inclusion of a project whose design concept and scope consistent with the (Enhanced) Reduced Build Alternative, is unlikely.

A. PREFERRED ALTERNATIVE/(ENHANCED) REDUCED BUILD ALTERNATIVE.

There are no indications that the (Enhanced) Reduced Build Alternative would contribute to a PM_{10} hot spot that would cause or contribute to violation of the PM_{10} NAAQS. This finding is based in part on the inclusion of the (Enhanced) Reduced Build Alternative in the approved 2001 RTP and 2001 TIP, which accounted for the regional PM_{10} SIP budget compliance. It is also based on the PM_{10} monitored concentrations recorded at the CARB Anaheim-Harbor Boulevard and the North Long Beach-North Long Beach Boulevard Monitoring Stations, closest to the study area, which are below 80 percent of the NAAQS concentration threshold of 150 mg/m^3 for the three years 1999 through 2001. This finding indicates that a PM_{10} violation due to operation of the proposed improvements is not likely to occur.

The following discussion on the I-405/I-605 direct HOV Connector applies to all of the build alternatives and has been added to the FEIR/EIS to supplement the analysis provided in the August 2001 DEIR/EIS in order to address community concerns regarding mobile emissions and particulate matter near this location.

I-405 / I-605 HOV Connector

Future changes in traffic were assessed, both with and without the proposed I-405/I-605 direct HOV Connector as part of the traffic analysis conducted for the August 2001 DEIR/EIS. According to the EPA and the California Air Resources Board, motor vehicles are a known source of hazardous air pollutants, especially diesel exhaust particulate matter. In freeway operations, diesel exhaust particulates are generated by motor vehicles that use diesel fuel. Of particular concern are medium- and heavy-duty trucks, which tend to operate almost exclusively on diesel fuel, whereas the vast majority of autos, pick-ups, and trucks with 2-axles use gasoline and have much lower particulate emissions.

The addition of HOV lanes and direct HOV connectors between I-405 and I-605 is not predicted to change the number or percentage of diesel trucks on this segment of the freeway. By definition, only high occupancy vehicles or buses would use the new lanes. On California freeways, medium- and heavy-duty trucks must remain in the two right-hand lanes and would not be eligible to use the proposed HOV lanes. However, additional express bus service would be provided as part of the (Enhanced) Reduced Build Alternative. This transit service would be provided by Orange County Transportation Authority (OCTA), and some of the express buses would operate along the I-405/I-605 HOV Connector. In keeping with SCAQMD's Rule 1192, OCTA is currently in the process of phasing out its fleet of diesel transit vehicles in favor of zero emissions and ultra low emissions buses. According to the bus replacement schedules developed by OCTA, all of their diesel buses will be retired by the Year 2010. Based on current timetables, the I-405/I-605 HOV Connector would open no sooner than 2010.

Therefore, any potential hazardous effects of diesel emissions would not be worsened by the proposed direct HOV connectors.

C. OTHER ALTERNATIVES

1. NO BUILD ALTERNATIVE.

The No Build Alternative does not include construction other than that addressed in previous environmental documents. In addition, microscale analysis shows that no local air quality impacts are predicted to occur.

2. TSM/EXPANDED BUS SERVICE ALTERNATIVE.

As with the No Build Alternative, the TSM/Expanded Bus Service Alternative does not include construction

other than that addressed in previous environmental documents. In addition, microscale analysis shows that no local air quality impacts are predicted to occur.

3. FULL BUILD ALTERNATIVE.

Same as (Enhanced) Reduced Build Alternative, 4.8.3 (B). Also see above discussions on the Pacific Electric Arterial and the I-405/I-605 HOV Connector.

4.8.4 CONSTRUCTION IMPACTS ON AIR QUALITY

A. (ENHANCED) REDUCED BUILD ALTERNATIVE

Air emissions from construction activities include airborne dust from grading, demolition, dirt-hauling, gaseous emissions from heavy equipment, delivery and dirt-hauling trucks, employee vehicles, and paints and coatings. Construction activities would vary throughout the SR-22/WOCC project area, and could include demolition of existing structures, roadway excavation, pavement removal, grading and surface preparation, and final paving. During construction, the project would be required to comply with regional rules that would prevent substantial short-term air pollutant emissions. Dust control measures will be required for disturbed and exposed soil areas and stockpiles on the project site that are subject to wind erosion, and when significant wind and dry conditions are anticipated during construction of the project. Dust control shall be applied in accordance with the Department standard practices and Best Management Practices (BMP), and as defined in the most current publication of the Department's Statewide Storm Water Management Plan.

The construction contractor will be required to adhere to all laws and regulations for emissions from construction equipment, including those set forth by the South Coast Air Quality Management District at the time of construction.

In addition, the potential regional effects of particulate emissions attributable to construction activities associated with the SR-22/WOCC project along with other future transportation projects have been included in the regional analysis conducted by SCAG for PM_{10} for the adopted 2001 RTP. The results of this construction-related analysis indicate that future PM_{10} emissions would not exceed the SIP emissions budget.

Structures scheduled for demolition or substantial modification will be surveyed during final design work for the presence of asbestos-containing materials, and notification will be filed as required under Federal and SCAQMD regulations before construction. Effective dust control measures during demolition activities will be required.

B. OTHER ALTERNATIVES

1. NO BUILD ALTERNATIVE

The No Build Alternative does not include construction other than that addressed in previous environmental documents. No additional construction-related air quality impacts would occur.

2. TSM/EXPANDED BUS SERVICE ALTERNATIVE

The TSM/Expanded Bus Service Alternative does not include construction other than that addressed in previous environmental documents. No additional construction-related air quality impacts are expected to occur.

3. FULL BUILD ALTERNATIVE

See the (ENHANCED) REDUCED BUILD ALTERNATIVE in 4.8.4 (A), above.

4.8.5 CONFORMITY STATEMENT

Under the requirements of the CAAA, ISTEA and TEA-21, proposed transportation projects must be derived from a fiscally-constrained Regional Transportation Plan (RTP) that conforms to the State Implementation Plan (SIP). The SIP is the document that sets forth the state's strategies for achieving Federal air quality standards. Projects must also be included in a Federally-approved Transportation Improvement Program (TIP) that conforms with the SIP, and proposed projects must not cause or contribute to localized exceedances in non-attainment and maintenance areas for carbon monoxide (CO) and PM_{10}.

The SCAG Regional Council found the 2001 RTP to conform to the purposes of the SIP and adopted the 2001 RTP for the six-county SCAG region in April 2001. Federal approval of the 2001 RTP was obtained in June 2001. The RTP, known as CommunityLink 21, is a performance-based plan aimed at providing a long-range, coordinated approach to transportation improvements from 2001 through 2025. The RTP is revised and adopted every three years to update policy direction, based on changing transportation infrastructure, financial, technological, and environmental conditions. The RTP describes a financially constrained series of proposed transportation policies, programs and projects that meet the mobility goals and that demonstrate that the SCAG region can meet air quality conformity in 2010 and 2025. The actual strategies employed by each responsible agency will depend on a number of issues, including: policies, programs and projects adopted at the local level; restrictions on federal, state and local transportation funds; the results of feasibility studies for particular corridors; and further environmental review of proposed projects.

The major elements that comprise the design concept and scope of the proposed build alternatives for the SR-22/WOCC project are included in the 2001 RTP and are summarized as follows:

- Mainline: HOV Lanes on SR-22, Valley View to approximately SR-55* (FB, RB, ERB)
- Ramp Improvements on SR-22, @ The City Drive (FB, RB, ERB)
- HOV Connector, SR-22 @ I-5 (FB)
- HOV Connector, SR-22 @ SR-55 (FB)
- HOV Connector, I-405 @ SR-22 (FB, RB, ERB)
- HOV Connector, I-605 @ I-405 (FB, RB, ERB)
- 4-Lane Arterial on Pacific Electric ROW, SR-22 to Raitt St. in Santa Ana (FB)

Note: FB = Full Build; RB = Reduced Build; ERB = (Enhanced) Reduced Build
The Reduced Build and (Enhanced) Reduced Build Alternative is one alternative; the two names are used solely to differentiate that air quality analysis was prepared for the Reduced Build Alternative at the DEIR/EIS phase, and the (Enhanced) Reduced Build Alternative, which is a minor alteration of the Reduced Build Alternative, is discussed and analyzed in this section.

*The original limits of the Mainline portion of the improvements are from Valley View Street to Glassell Street. During the final environmental documentation process, the project limits have been extended from Valley to approximately SR-55. The minor extension of the HOV Mainline was analyzed by SCAG during the initial air quality conformity analysis as part of the I-405/I-605, SR-22/I-405, SR-22/SR-55 HOV Connectors. On April 1, 2002, SCAG wrote a letter clarifying the details of the SR-22 WOCC proposed project limits and the features of the project. Please see Appendix G (Volume IV) of the FEIR/EIS for the SCAG letter.

As previously discussed in the August 2001 DEIR/EIS, the mainline elements of the SR-22/WOCC project are included in the adopted 2001 RTIP for FY 2001-2006 as Project # ORA000195, Build Mainline HOV Lanes on SR-22 from Valley View Street to Glassell Street, as well as ramp improvements on SR-22 in the vicinity of City Drive (Projects #ORA55282 and #ORA990443).

In the current "Final 2002 RTIP (FY 2002/2003-2007/2008)," the mainline elements of the SR-22/WOCC project are included for FY 2003-2008 as Project # ORA000195, on SR-22 (I-405 to SR-55) add 2 HOV lanes/

1 each direction; and 2 auxiliary lanes/1 each direction (from 0-2) (I-5 to Beach) and operating improvements, as well as ramp improvements on SR-22 in the vicinity of City Drive (Projects #ORA55282 and #ORA990443). Note, SCAG loosely defined the project limits of the mainline from I-405 to SR-55; however, the (Enhanced) Reduced Build Alternative mainline project limits are from Valley View to approximately SR-55 (Valley View Street is at the junction of SR-22 and I-405 freeways). As noted above, SCAG had analyzed the extension of the (Enhanced) Reduced Build Alternative's eastern terminus as part of the SR-22/55 direct HOV connector feature of the Full Build Alternative, as presented in the August 2001 DEIR/EIS. The slight extension (from Glassell Street to approximately SR-55) of the SR-22/WOCC (Enhanced) Reduced Build Alternative's HOV mainline at the eastern terminus has been analyzed as part of the SR-22/55 direct HOV connector component of the Full Build Alternative.

The design of the project has been included in the 2002 Regional Transportation Improvement Program (RTIP) with a construction start date of 2003 and a completion date of 2006 (with the design-build concept implemented). (See Figures 4.8-6 through 4.8-7) Therefore, the SR-22/WOCC Project is in conformity with the SIP and is consistent with the requirements of the Transportation Conformity Rule. The 2002 RTIP and Federal Transportation Improvement Programs (FTIP) will likely be approved by FHWA around October 1, 2002 into the Federal Statewide Transportation Improvement Program (FSTIP). The FSTIP is the final conformity document for the TIP. See Figures 4.8-6/7 for the 2002 RTIP list for State Highway Projects.

The results of the air quality analysis indicates that the proposed project will not cause any violations or exceedances of the NAAQS or the AAQS due to the following:

- The project is consistent with the design concept and scope of the project as listed in the SCAG Conformity 2001 Regional Transportation Plan, adopted April 12, 2001, and the Federal Transportation Improvement Program (FTIP) approved by SCAG in August 2001 and by FHWA/FTA in September 2001.

- The project is a Transportation Control Measure(s) (TCM) as defined in the AQMP and SIP, as well as in the RTP and RTIP. TCM is a project or program that is designed to reduce air quality emissions. TCMs are referenced in the State Implementation Plan (SIP) for the applicable air basin and have priority for programming and implementation ahead of non-TCMs projects. As part of SCAG's RTP/RTIP, this project has undergone air quality conformity analysis for the South Coast Air Basin (SCAB).

- Based on quantitative CO and qualitative PM_{10} hot-spot assessments, the project will not cause or contribute to localized violations of NAAQS standards.

- The future PM_{10}, CO, and ozone levels within the SCAG region, which includes the proposed project, are projected to be less than the SIP emissions budget.

4.8.6 MITIGATION

A. (ENHANCED) REDUCED BUILD ALTERNATIVE

None proposed. This alternative would not cause or worsen a violation of the applicable air quality standards in the South Coast Air Basin.

Construction Impacts

Dust control measures will be implemented to comply with all applicable regulations, including South Coast Air Quality Management District rules.

Asbestos surveys will be performed for all structures subject to demolition or structural modification, notification(s) will be filed as required by applicable regulations, and dust control will be utilized to minimize the potential for asbestos emissions during structural demolition and renovation activities.

B. OTHER ALTERNATIVES

1. NO BUILD ALTERNATIVE

None proposed.

2. TSM/EXPANDED BUS SERVICE ALTERNATIVE

See comment under 4.8.6 A. (Enhanced) Reduced Build Alternative, above.

3. FULL BUILD ALTERNATIVE

See comment under 4.8.6 A. (Enhanced) Reduced Build Alternative, above.

4.8.7 RESIDUAL IMPACTS AFTER MITIGATION

A. (ENHANCED) REDUCED BUILD ALTERNATIVE

None.

B. OTHER ALTERNATIVES

1. NO BUILD ALTERNATIVE

None.

2. TSM/EXPANDED BUS SERVICE ALTERNATIVE

None.

3. FULL BUILD ALTERNATIVE

None.

2001 RTP - CONSTRAINED PROJECT LIST

County	Route	Project Limits	Description	Year	Public Cost (97$)*	Private/Other Cost (97$)*
OR	Orangethorpe Corridor	State College in Fullerton	Grade Crossing	2010	$25,000,000	
OR	Orange/Olive Corridor Grade Crossings	Orange/Olive Branch, various locations	Grade separate streets @ railroad tracks (full description provided in expanded list)	2010	$151,000,000	
OR	Other Grade Separations	TBD	Countywide grade separations	2020	$109,000,000	
HOT LANES/TOLLWAYS						
OR	Corridor	SR-241 to Riv Co Line	Corridor	2010		$520,000,000
OR	SR-91 @ SR-241	SR-91 @ SR-241	Add Tollway Connection Ramps	2020		$90,000,000
HOV						
OR	I-5	SR-1 to Pico	Freeway: HOV	2020	$70,000,000	
OR	SR-55	I-5 to Dyer, NB and SB	Extend I-5/SR-55 HOV connector to Dyer as separate HOV lane	2010	$40,000,000	
OR	SR-22 @ I-5	SR-22 @ I-5	HOV Connector	2025	$66,000,000	
OR	SR-22 @ SR-55	SR-22 @ SR-55	HOV Connector	2025	$63,000,000	
OR	I-405 @ SR-22	I-405 @ SR-22	HOV Connector	2010	$60,000,000	
OR	I-605 @ I-405	I-605 @ I-405	HOV Connector	2010	$85,000,000	
OR	I-405 HOV Drop Ramps	@ Von Karman	HOV Drop Ramps	2025	$24,000,000	
MIXED FLOW						
OR	I-405, NB & SB	Magnolia Avenue to Beach Blvd.	Auxiliary Lanes	2010	$8,000,000	
OR	SR-55	I-5 to McArthur Blvd	Auxiliary Lanes	2010	$40,000,000	
OR	SR-57	LA Co Line to SR-22	Add NB Aux Lane from Katella to SR-91 and from Orangethorpe to Imperial Hwy; Add SB Aux Lane from LA County to SR-91; Add NB Truck Climbing Lane from Lambert to Tonner	2010	$186,000,000	
OR	SR-91	SR-57 to I-5 (WB only)	Auxiliary Lanes	2020	$15,000,000	
OR	SR-91 WB	SR-55 to Tustin Ave	Auxiliary Lanes	2010	$25,000,000	
OR	SR-91	SR-241 to SR-71	Auxiliary Lanes	2025	$7,000,000	
OR	SR-91 Freeway	Between SR-71 (Riv County) and Coal Canyon	Auxiliary Lane (WB)	2006	$5,000,000	
OR	I-405 @ SR-55	I-405 @ SR-55 (Bristol Braid)	Interchange Improvement	2020		$32,000,000
OR	I-5 NB & SB	I-5 La Paz to Oso	Add auxiliary lane, widen bridge, intersection improvements	2010	$13,000,000	
OR	I-5, NB & SB	at La Paz Road	Reconstruct interchange	2010	$30,000,000	
OR	I-5, SB	at Alicia Parkway	Auxiliary Lane	2010	$2,000,000	

Southern California Association of Governments K - 5

Constrained Project List
2001 RTP
Figure 4.8-2

LEAD AGENCY	PROJECT ID	AIR BASIN	MODEL NO	RTE	POST MILES BEG	POST MILES END	DESCRIPTION	COMPLETION DATE
SAN JUAN CAPISTRANO	40177	SCAB		5	11.4	.0	SAN JUAN CAPISTRANO NEAR I-5 AND CAMINO CAPISTRANO ENHANCEMENT OF HISTORIC VIEW AND LANDSCAPEING AND HISTORIC PRESERV	__/__/__
LAGUNA HILLS	ORA000122	SCAB		5	16.5	16.5	INTERCHANGE IMPROVEMENTS AT I-5/LA PAZ. EXPAND FROM 2 LANES TO 3 LANES IN EACH DIRECTION ON LA PAZ RD.	20070630
TUSTIN	ORA55262	SCAB		5	29.1	29.1	RED HILL AVE WIDENING AT I-5 FWY BETWEEN EL CAMINO REAL & NISSON RD ADD DEDICATED RIGHT TURN LANE TO FREEWAY ON RAMPS BOTH N/S ADD BIKELANES	__/__/__
CALTRANS	6490	SCAB		5	33.9	43.5	IN ANAHEIM FROM ROUTE 5/22/57 INTERCHANGE TO BEACH BOULEVARD - CONSTRUCT TMA FOR I-5.	__/__/__
ANAHEIM	ORA000100	SCAB	2006	5	34.0	43.5	GENE AUTRY WAY WEST/I-5 FWY CONNECTION AND HWY IMPRV. PROJ. (I-5 HOV TRANSITWAY TO HASTER) ADD OVERCROSSING ON I-5 (S)/MANCHESTER AND EXTEND GENE AUTRY WAY WEST FROM I-5 TO HARBOR.	20030630
CALTRANS	01260FF	SCAB	2006	5	34.0	43.5	IN SANTA ANA FROM ROUTE 22 TO ROUTE 91 - 6 LANE FREEWAY ADD 2 MIXED FLOW LANES, 2 HOV LANES, AND RECONSTRUCT INTERCHANGES INCLUDE GENE AUTRY & ORANGEWOOD	20010130
ANAHEIM	ORA990904	SCAB		5	34.4	43.5	LANDSCAPE I-5 IN ANAHEIM, BUENA PARK, ORANGE AND FULLERTON OUTSIDE STATE ROW. IN CONJUNCTION WITH ORA990905	__/__/__
CALTRANS	10167	SCAB	2009	5	42.1	44.4	IN BUENA PARK FROM SR-91 TO LA LA COUNTY LINE ADD 1 HOV LANE IN EACH DIRECTION	20021201
BUENA PARK	ORA55059	SCAB		5	44.3	.0	ARETESIA/I-5 INTERSECTION IMP FROM KNOTT TO BOTRYOIDES; REALIGN N/B OFFRAMP AND S/B ONRAMP; IN CONJ W/ I-5 WIDENING.	20020620
CALTRANS	ORA000195	SCAB	0202	22	.7	11.8	BUILD MAINLINE HOV LANES ON SR22 FROM VALLEYVIEW TO GLASSELL. DESIGN, ROW, AND CONSTRUCTION. (PROJECT ADMIN. BY OCTA)	20101230
GARDEN GROVE	929369	SCAB		22	1.1	10.0	IN GARDEN GROVE FROM VALLEY VEIW STREET TO BRISTOL STREET INSTALL CLOSED CIRCUIT TELEVISION CAMERAS	__/__/__
CALTRANS	ORA000801	SCAB		22	1.9	6.8	RETROFIT THREE (3) SOUNDWALLS ON SR-22 IN GARDEN GROVE.	20060430

Baseline Projects
Governor's Traffic Congestion Relief Plan
2001 RTP
Figure 4.8-3

LEAD AGENCY	PROJECT ID	AIR BASIN	MODEL NO	RTE	POST MILES BEG	POST MILES END	DESCRIPTION	COMPLETION DATE
GARDEN GROVE	ORA981104	SCAB		22	7.8	.0	IN GARDEN GROVE RECONSTRUCT HARBOR BLVD INTERCHANGE	20040830
ORANGE, CITY OF	ORA55282	SCAB	2401	22	9.7	.0	BUILD NEW RAMP FROM THE SR-57 TO THE SR22 WEST BOUNDD (INCLS WIDENING OF LEWIS ST BRIDGE FROM LAMPSON TO GARDEN GROVE BL) & BUILD OFFRAMP FROM THE SR-57 DIRECTLY TO THE CITY DRIVE.	20040601
ORANGE, CITY OF	ORA990443	SCAB		22	10.5	.0	SR22 AND CITY DRIVE INTERCHANGE IMPROVEMENTS. RECONFIGURE FREEWAY INTERCHANGE AT SR22 FROM SR57 TO LEWIS STREET.	20041230
HUNTINGTON BEACH	ORA990408	SCAB		39	1.6	.0	Yorktown at Beach Boulevard in HB Intersection Improvement WIDENS NORTHSIDE OF INTERSECTION TO MAXIMUM MPAH WIDTH NO NEW LANES	__/__/__
HUNTINGTON BEACH	ORA000149	SCAB		39	5.7	5.7	BEACH BLVD/EDINGER. WIDEN S/E CORNER TO CONSTRUCT NB RT-TURN LANE TO EDINGER.	__/__/__
BUENA PARK	ORA55025	SCAB		39	14.6	14.6	INTERSECTION INPROVEMENTS AT ORANGETHORPE/BEACH BOULEVARD. FROM 440' NS ORANGETHORPE TO 400' EW BEACH. WIDEN FROM 6 TO 8 LANES	__/__/__
SANTA ANA	ORA55037	SCAB		55	.0	.0	IN CITY OF SANTA ANA 17TH STREET OVERCROSSING APPROACH WIDENING AT TUSTIN AVE/YORBA STREET	__/__/__
COSTA MESA	ORA000161	SCAB	0205	55	1.5	1.5	NEWPORT BLVD. (SR-55 TO 17TH ST.) / WIDENING FROM 6 TO 8 THROUGH LANES.	20030401
COSTA MESA	ORA015	SCAB		55	5.3	.0	IN COSTA MESA AT BAKER STREET AND SR55 (NB AND SB) INTERSECTION IMPROVEMENT	__/__/__
CALTRANS	2590	SCAB		55	5.7	8.3	IN COSTA MESA AND SANTA ANA FROM ROUTE 405 TO DYER ROAD - ADD AUXILIARY LANE AND RESTRIPE	20000601
COSTA MESA	ORA016	SCAB		55	5.8	.0	IN COSTA MESA PAULARINO AVE INTERSECTION INPROVEMENT AT PAULARINO AVE. AND NB RAMP	__/__/__
COSTA MESA	ORA017	SCAB		55	5.8	.0	IN COSTA MESA PAULARINO AVE INTERSECTION INPROVEMENT AT PAULARINO AVE AND SB RAMP	__/__/__

Baseline Projects, State Highways
2001 RTP
Figure 4.8-4

SOURCE	PROJECT	CATEGORY
LACMTA	Lancaster - Sierra Highway Bikeway - Gap Closure	2000 Abbreviated Call for Projects - STIP Funds
LACMTA	Whittier - Whittier Greenway Trail - Norwalk Blvd to Penn St	2000 Abbreviated Call for Projects - STIP Funds
LACMTA	Compton - Compton Creek Bikeway Extension - Phase III	2000 Abbreviated Call for Projects - STIP Funds
LACMTA	Los Angeles City - San Fernando Rd ROW bike path - Phase II	2000 Abbreviated Call for Projects - STIP Funds
Sierra Madre	Chantry Flats Road restoration	Transportation and Community Systems Preservation Program (TCSP)
OCTA	SR-22 build mainline HOV lanes (1 each dir) from Valley View to SR-55; add 1 continuous auxiliary lane in each direction from I-5 to Beach Boulevard and make operational improvements. Construction begins in 2005 and should be completed by 2008 RTIP ID# ORA000195	TCRP
OCTA	I-5 add 1 MF lane in each direction from SR-91 to LA County Line; completion date 2010	TCRP
OCTA	Orangethorpe Corridor - Track Lowering from Placentia Ave to Kellogg Drive Accomodates Placentia crossings at: Kraemer, Orangethorpe, Tustin/Rose, Jefferson, Van Buren, Richfield, Lakeview, Kellogg. Completion date 2010 (Note: public cost of $28 million is funded by TCRP and in baseline; remaining private/other cost of $318 million is in constrained plan)	TCRP
RCTC	I-10 construct new interchange at Apache Trail Rd (PM R17.8/18.2)	TCRP
RCTC	SR-91 add 1 HOV lane each dir from Mary St to SR-60/SR-91/I-215 interchange	TCRP
RCTC	SR-60 add 1 MF & 1 HOV lane each dir from I-15 to Valley Way	TCRP
RCTC	I-10 construction of Palm Drive interchange	TCRP
RCTC	SR-91 improve Green River interchange and add auxiliary and connector ramp east of the Green River interchange to NB SR-71	TCRP
RCTC	Lovekin Blvd arterial improvement from 0.25 mi north to 0.5 mi south of Seeley Dr	2000 STIP augmentation
RCTC	Hobsonway arterial improvements in Blythe	2000 STIP augmentation
SANBAG	I-215 near Colton and San Bernardino from I-10 to SR-30 (210), reconstruct interchanges, add 1 HOV lane each dir, and operational improvements RTIP ID# 713, 714, 715, 716, 717, 718, 719	TCRP
SANBAG	I-15 southbound truck climbing lanes	TCRP
SANBAG	SR-62 utility undergrounding and ROW	TCRP
SANBAG	Alameda Corridor East grade separations	TCRP
SANBAG	I-10 construct 1 MF lane each dir from Orange St to 0.2 miles east of Ford St, and full widening of 11 bridges	TCRP

Constrained Project List
2001 RTP
Figure 4.8-5

FINAL 2002 REGIONAL TRANSPORTATION IMPROVEMENT PROGRAM (RTIP) (FY 2002/2003-2007/2008) – STATE HIGHWAY PROJECTS[1]

ORANGE COUNTY

LEAD AGENCY	PROJECT ID	AIR BASIN	MODEL NO	PROGRAM CODE	RTE	POST BEG	MILES END	DESCRIPTION	FUND	YEAR	ENG	ROW	CONS	TOTAL	2002/03	2003/04	2004/05	2005/06-2007/08	PROJECT TOTAL	CONFORMITY CATEGORY
TUSTIN	ORA55262	SCAB		NCRH1	5	29.1	29.1	I-5 @ RED HILL AVE (EL CAMINO REAL & NISSON RD) WIDENING. ADD DEDICATED RIGHT TURN LANE TO FREEWAY ON RAMPS BOTH N/S ADD BIKELANES (97-TUST-RIP-1159)	CITY ORA-BCK ORA-RIP	02/03 02/03 02/03	0 31 0	160 5 0	214 257 257	374 293 257	924	0	0	.0	924	EXEMPT/TRAFFIC SIGNALIZATION
CALTRANS	6490	SCAB		TDM24	5	33.9	43.5	I-5 (ROUTE 5/22/57 INTERCHANGETO BEACH BLVD) IN ANAHEIM - CONSTRUCT TMA.	IM	02/03	0	0	500	500	500	0	0	.0	500	<OTHER>
ANAHEIM	ORA000100	SCAB	2006	CAN72	5	34.0	43.5	GENE AUTRY WAY WEST@ I-5 (I-5 HOV TRANSITWAY TO HASTER) ADD OVERCROSSING ON I-5 (S)/MANCHESTER AND EXTEND GENE AUTRY WAY WEST FROM I-5 TO HARBOR.	CITY DEMO721	02/03 02/03	250 0	1750 6750	0 0	2000 6750	8750	0	0	.0	8750	TCN
ANAHEIM	ORA990904	SCAB		NCN46	5	34.4	43.5	I-5 (SR-22/SR-57 TO BEACH BLVD)LANDSCAPING IN ANAHEIM, BUENA PARK, ORANGE AND FULLERTON OUTSIDE STATE ROW. IN CONJUNCTION WITH ORA990905 TEA PROJECT	CITY STPE-L	02/03 02/03	0 0	0 0	208 1526	208 1526	1734	0	0	.0	1734	EXEMPT/TRAFFIC SIGNALIZATION
CALTRANS	10167	SCAB	2009	CAR62	5	42.1	44.4	I-5 FROM SR-91 TO LA COUNTY LINE IN BUENA PARK - ADD 1 MIXED FLOW LN AND 1 HOV LN IN EACH DIRECTION. FROM 6 - 0 TO 8 - 2 LANES.	NH ORA-FWY NH ST-CASH	02/03 02/03 03/04 03/04	980 11929 0 0	10460 17882 0 0	0 119189 26983 23342	11440 149000 26983 23342	160440	50325	0	.0	210765	TCN
BUENA PARK	ORA55059	SCAB		CARH3	5	44.3	.0	ARETESIA @ I-5 (KNOTT TO BOYSYOIDES) INTERSECTION IMP REALIGN N/B OFFRAMP AND S/B ONRAMP; IN CONJ W/ I-5 WIDENING. FROM 2 TO 3 LANES. I-5 E TO BOYSYOIDES BLVD. (PE ONLY)	CITY ORA-GMA	02/03 02/03	2555 320	0 0	0 0	2555 320	2875	0	0	.0	2875	<OTHER>
ORANGE COUNTY TRANS AUTHORITY (OCTA)	ORA000193	SCAB		CAR62	22	.0	.7	SR-22/I-405 INTERCHANGE. DESIGN HOV TO HOV LANE CONNECTORS.	STP	06/07	5000	0	0	5000	0	0	0	5000.0	5000	TCN
CALTRANS	ORA020124	SCAB		NCR42	22	.3	13.2	SR-22 SOUNDWALLS (INCLUDES TCRP/HB311)	ST-CASH TCR-S	02/03 02/03	4400 0	800 200	17800 22100	23000 22300	45300	0	0	.0	45300	EXEMPT/TRAFFIC SIGNALIZATION
CALTRANS	ORA000195	SCAB	0202	CAR62	22	.7	11.8	ON SR-22 (I-405 TO SR55) ADD 2 HOV LANES/1 EA DIR (FRM 0 - 2); & 2 AUX LANES/1 EA DIR (FRM 0- 2) (I-5 TO BEACH) & OPERATING IMPROVMENTS (SEE COMMENTS)	TCR-S CITY ORA-FWY TCR-S CITY ORA-FWY TCR-S ORA-FWY TCR-S TCR-S	02/03 03/04 03/04 03/04 04/05 04/05 04/05 05/06 05/06 06/07	9300 0 0 15630 0 0 15630 0 15630 1010	10000 0 0 20000 0 0 10000 0 1300 100	74800 3500 96500 0 3000 97000 0 9500 0 0	94100 3500 96500 35630 3000 97000 25630 9500 16930 1110	94100	135630	125630	27540.0	382900	TCN
CALTRANS	ORA020123	SCAB		NCR46	22	.7	11.8	SR-22 REPLACMENT PLANTING FOR HOV WIDENING PROJECT	TCR-S TCR-S	03/04 06/07	800 0	0 0	0 10000	800 10000	0	800	0	10000.0	10800	EXEMPT/TRAFFIC SIGNALIZATION
CALTRANS	ORA000801	SCAB		NCR42	22	1.9	6.8	IN GARDEN GROVE (SPRINGDALE TO KNOTT- N AND S SIDES) AND (MAGNOLIA TO EUCLID - S SIDE) RETROFIT THREE (3) SOUNDWALLS ON SR-22.	IM TCR-S	02/03 02/03	3356 0	1000 0	13185 22100	17541 22100	39641	0	0	.0	39641	EXEMPT/TRAFFIC SIGNALIZATION

Note 1. Sorted by county, route, post miles, and project ID. #73218 v1 17 7/26/2002

Final 2002 RTIP
Figure 4.8-6

FINAL 2002 REGIONAL TRANSPORTATION IMPROVEMENT PROGRAM (RTIP) (FY 2002/2003-2007/2008) – STATE HIGHWAY PROJECTS[1]

ORANGE COUNTY

LEAD AGENCY	PROJECT ID	AIR BASIN	MODEL NO	PROGRAM CODE	RTE	POST BEG	MILES END	DESCRIPTION	FUND	YEAR	ENG	ROW	CONS	TOTAL	2002/03	2003/04	2004/05	2005/06-2007/08	PROJECT TOTAL	CONFORMITY CATEGORY
GARDEN GROVE	ORA981104	SCAB	0263	CAR63	22	7.8	.0	RECONSTRUCT HARBOR BLVD INTERCHANGE. 4 LANES EACH DIRECTION. (1/4 MILE BEFORE AND AFTER SR-22 RAMPS) 2 HOV LNES(1 E/B & 1 W/B) AND PROPOSED SR-22 HOV LANES.	DEMOT21	02/03	390	0	0	390	3159	5325	0	.0	8484	TCN
									CITY	02/03	104	0	1100	1204						
									LTF	02/03	0	275	1290	1565						
									DEMOT21	03/04	0	0	1110	1110						
									LTF	03/04	0	0	1300	1300						
									ORA-GNA	03/04	0	0	300	300						
									ORA-RIP	03/04	0	0	2615	2615						
ORANGE, CITY OF	ORA55282	SCAB	2401	CARH3	22	9.7	.0	BUILD NEW RAMP FROM THE SR-57 TO THE SR22 WEST BOUND (INCLE WIDENING OF LEWIS ST BRIDGE FROM LAMPSON TO GARDEN GROVE BL) & BUILD OFFRAMP FROM THE SR-57 DIRECTLY TO THE CITY DRIVE.	CITY	03/04	700	0	0	700	0	700	2059	.0	2759	<OTHER>
									CITY	04/05	0	0	2059	2059						
ORANGE, CITY OF	ORA990443	SCAB	0264	CARH3	22	10.5	.0	SR-22 AND CITY DRIVE INTERCHANGE IMPROVEMENTS. RECONFIGURE FREEWAY INTERCHANGE AT SR-22 FROM SR-57 TO LEWIS STREET -- FROM 6/0 TO 6/2 LANES (ADDING 2 HOV LANES)	CITY	02/03	0	1600	0	1600	1600	24791	0	.0	26391	TCN
									CITY	03/04	1650	0	20832	22482						
									ORA-GNA	03/04	0	0	250	250						
									ORA-RIP	03/04	0	0	1636	1636						
									PVT	03/04	0	0	423	423						
HUNTINGTON BEACH	ORA000149	SCAB		NCRH1	39	5.7	5.7	BEACH BLVD @ EDINGER. WIDEN S/E CORNER TO CONSTRUCT NB RT-TURN LANE TO EDINGER. 3 LANES TO 3 LANES.	ORA-IIP	02/03	0	0	418	418	418	0	0	.0	418	EXEMPT/TRAFFIC SIGNALIZATION
COSTA MESA	ORA000161	SCAB	0205	CAR63	55	1.5	2.0	NEWPORT BLVD. (ER-55 TO 17TH ST) - WIDENING FROM 6 TO 8 THROUGH LANES. WIDEN 1 LANE N/B FROM 17TH TO 19TH AND 1 LANE S/B FROM 19TH TO BROADWAY	STPL-R	02/03	320	0	0	320	860	0	0	.0	860	<OTHER>
									ORA-GNA	02/03	60	15	465	540						
COSTA MESA	ORA015	SCAB		NCRH1	55	5.3	5.3	BAKER STREET AND SR-55; N/B & S/B FRONTAGE ROAD IMPROVEMENTS. S/B FREE RIGHT TURN, N/B LEFT-TURN AND 2ND E/B LEFT.	CITY	03/04	90	0	610	700	0	700	0	.0	700	EXEMPT/TRAFFIC SIGNALIZATION
COSTA MESA	ORA016	SCAB	0265	NCRH1	55	5.8	5.8	PAULARINO AVE (SR-55 @ PAULARINO AVE) IN COSTA MESA INTERSECTION IMPROVEMENT. ADDING A N/B RAMP AND W/B RIGHT-TURN-LANE.	CITY	03/04	40	150	0	190	0	190	248	.0	438	EXEMPT/TRAFFIC SIGNALIZATION
									CITY	04/05	0	0	248	248						
COSTA MESA	ORA017	SCAB		NCRH1	55	5.8	5.8	PAULARINO AVE IN COSTA MESA. INTERSECTION IMPROVEMENT ADD E/B RIGHT-TURN LANE.	CITY	03/04	42	0	0	42	0	42	200	.0	242	EXEMPT/TRAFFIC SIGNALIZATION
									CITY	04/05	0	0	200	200						
SANTA ANA	550	SCAB	2204	CAR63	55	7.5	7.6	ALTON AVE IN SANTA ANA CONSTRUCT A NEW 4-LANE (2E/B AND 2W/B) OVERCROSSING & HOV ACCESS RAMPS @SR-55	CITY	02/03	1820	0	0	1820	3500	1500	1500	36600.0	43100	<OTHER>
									ORA-RIP	02/03	1680	0	0	1680						
									CITY	03/04	0	1500	0	1500						
									CITY	04/05	0	1500	0	1500						
									CITY	05/06	0	0	36600	36600						
TUSTIN	ORA55261	SCAB	0266	CARH3	55	9.0	9.4	NEWPORT AVENUE@ SR 55 INTERCHANGE MODIFY NORTHBOUND ROUTE 55 ON AND OFF RAMPS TO CONNECT TO NEWPORT AVE EXTENSION (frm 0 TO 6 LNS) (BTWN EDINGER & VALENCIA) (00-TUST-RIP-3190)	CITY	02/03	0	0	4282	4282	6345	0	0	.0	6345	<OTHER>
									ORA-RIP	02/03	0	0	2063	2063						

Note 1. Sorted by county, route, post miles, and project ID. #732 18 v1 18 7/26/2002

Final 2002 RTIP
Figure 4.8-7